

# Overview: 2017 Update to the Central Valley Flood Protection Plan

## Presentation to the Delta Protection Commission

January 19, 2017

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Central Valley Flood Protection Board



2017 ROADMAP



# Central Valley Flood Protection Plan

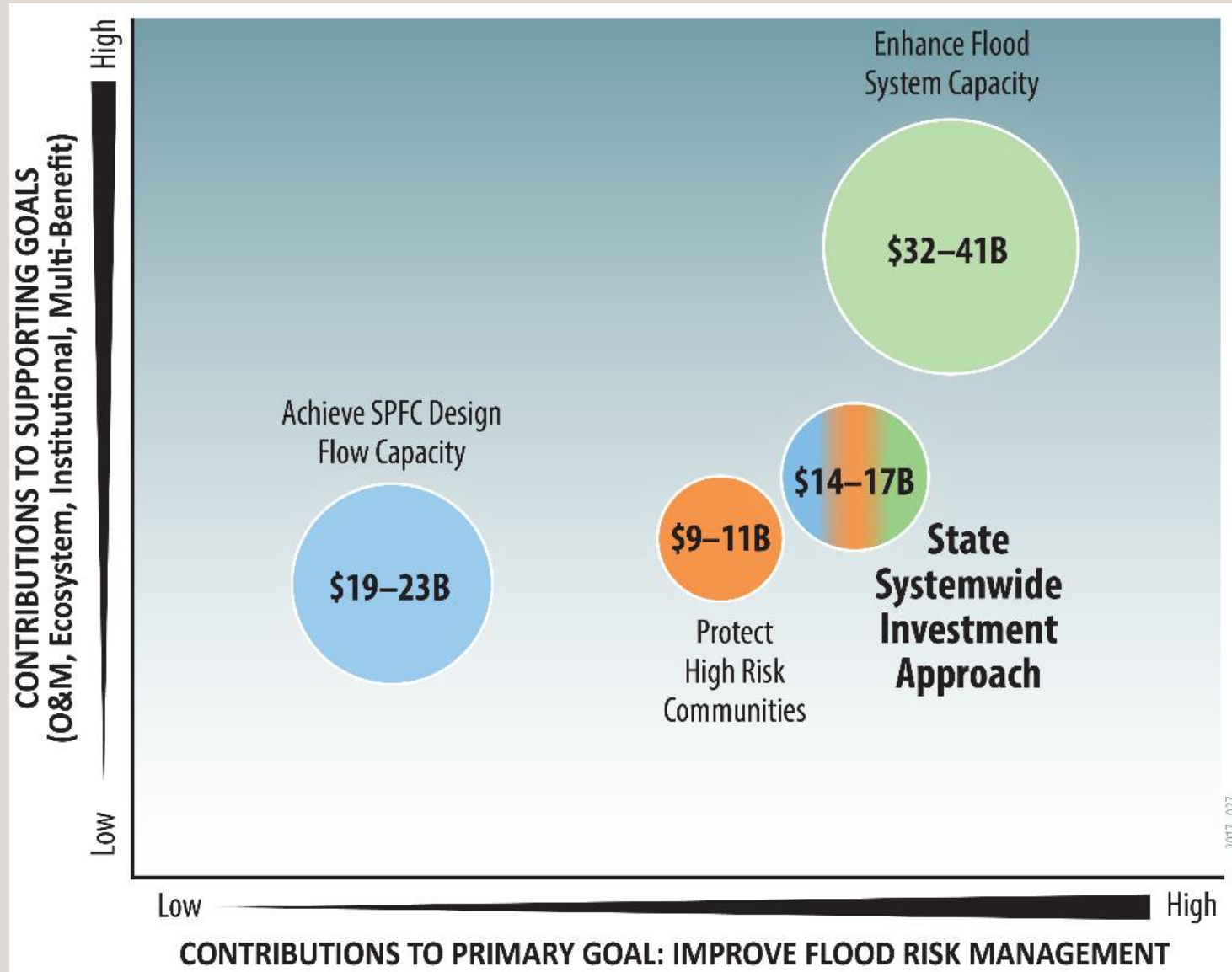
- Strategic blueprint to improve flood risk management in the Central Valley
- Recommends a State Systemwide Investment Approach (SSIA) to guide activities within State Plan of Flood Control floodplains
- Updated every five years; 2017 CVFPP Update:
  - Adds specificity about investment and financing approach
  - Includes policy recommendations to support comprehensive flood risk management actions



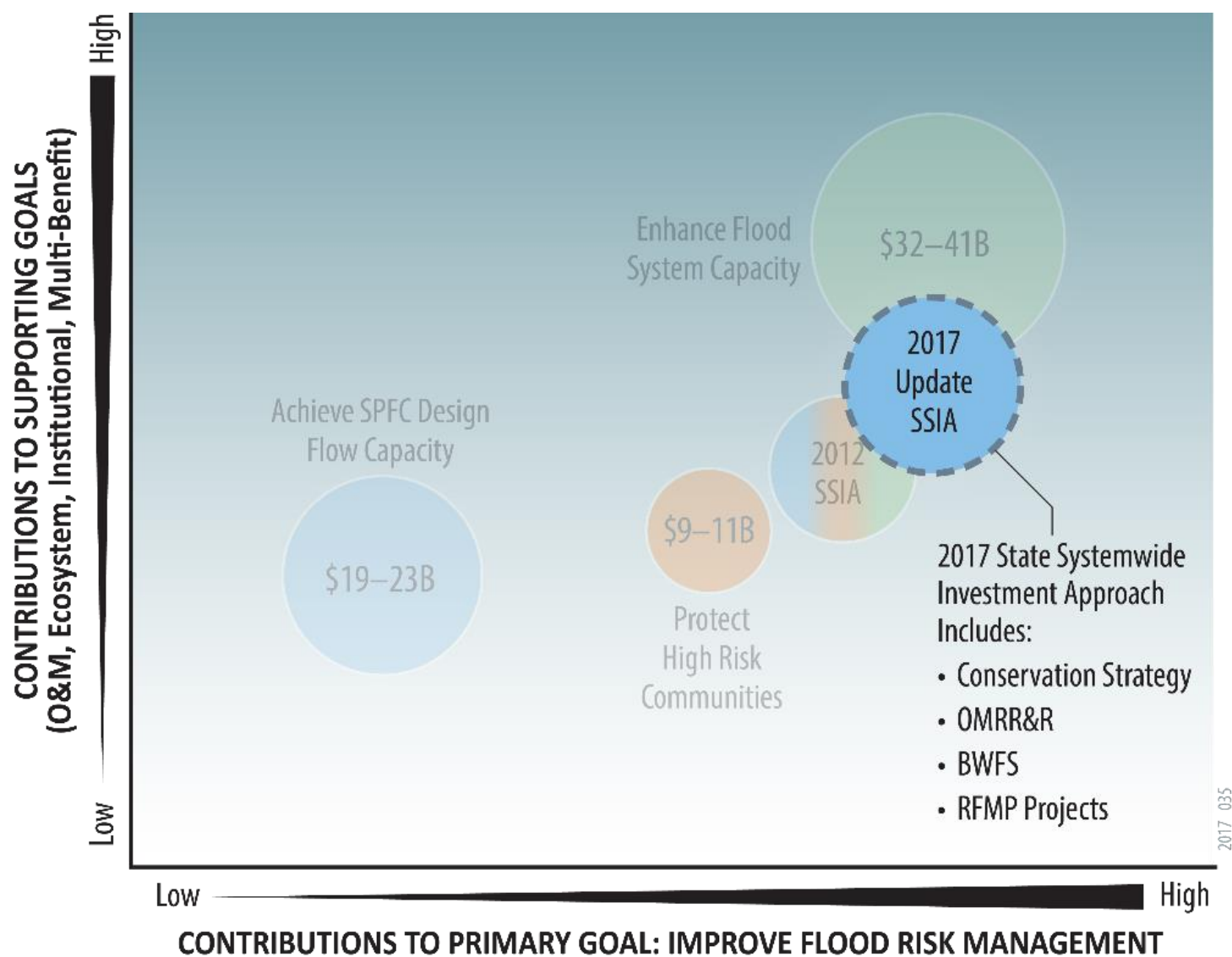
# CVFPP Primary and Supporting Goals

Primary: Improve Flood Risk Management	
Reduce the chance of flooding, and damages once flooding occurs, and improve public safety, preparedness, and emergency response	
Supporting	
Improve Operations and Maintenance	Promote Ecosystem Functions
Improve Institutional Support	Promote Multi-Benefit Projects

# 2012 State Systemwide Investment Approach (SSIA)



# 2017 Refined SSIA



# 2017 CVFPP Update Contents



Chapter 1	Updating the Central Valley Flood Protection Plan
Chapter 2	Refining the State Systemwide Investment Approach
Chapter 3	Strategies to Improve System Management
Chapter 4	Financing and Implementing the 2017 Refined SSIA Portfolio

# Chapter 1

## Updating the Central Valley Flood Protection Plan

- CVFPP implementation progress to date
- Policy issues since 2012 CVFPP





# Programmatic Planning at Different Scales

- **Systemwide or large-scale** – Encompassing multiple regions and/or land use types up to the full extent of the flood management system in the Central Valley
- **Regional-scale or medium-scale** – The general scale of the regions defined through Regional Flood Management Planning according to delineation by hydrologic and administrative boundaries
- **Small-scale** – A local area of limited geographic extent



# CVFPP Implementation Progress

**Table 1-2. State Investments in Flood Management (2007–2016)**

Program	Investment (\$M)
Flood Management Planning	\$375
Floodplain Risk Management	\$170
Flood Risk Reduction Projects	\$1,475
Flood System Operations and Maintenance	\$180
Flood Emergency Response	\$240
<b>Total</b>	<b>\$2,440</b>

Note: Investments include expenditures and allocated funds for the SPFC as of October 2016, and do not include additional non-SPFC investments. Table reflects State investments only (not federal and local contributions).

# Flood-Management Policy Issues

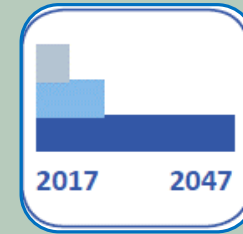
## Land Use and Floodplain Management



## Residual Risk Management



## Hydraulic and Ecosystem Baselines and Program Phasing



## Operations and Maintenance of the Flood System



## Development of Multi-Benefit Projects



## Effective Governance and Institutional Support



## Coordination with Federal Agencies



## Finance



# Chapter 2

## Refining the State Systemwide Investment Approach

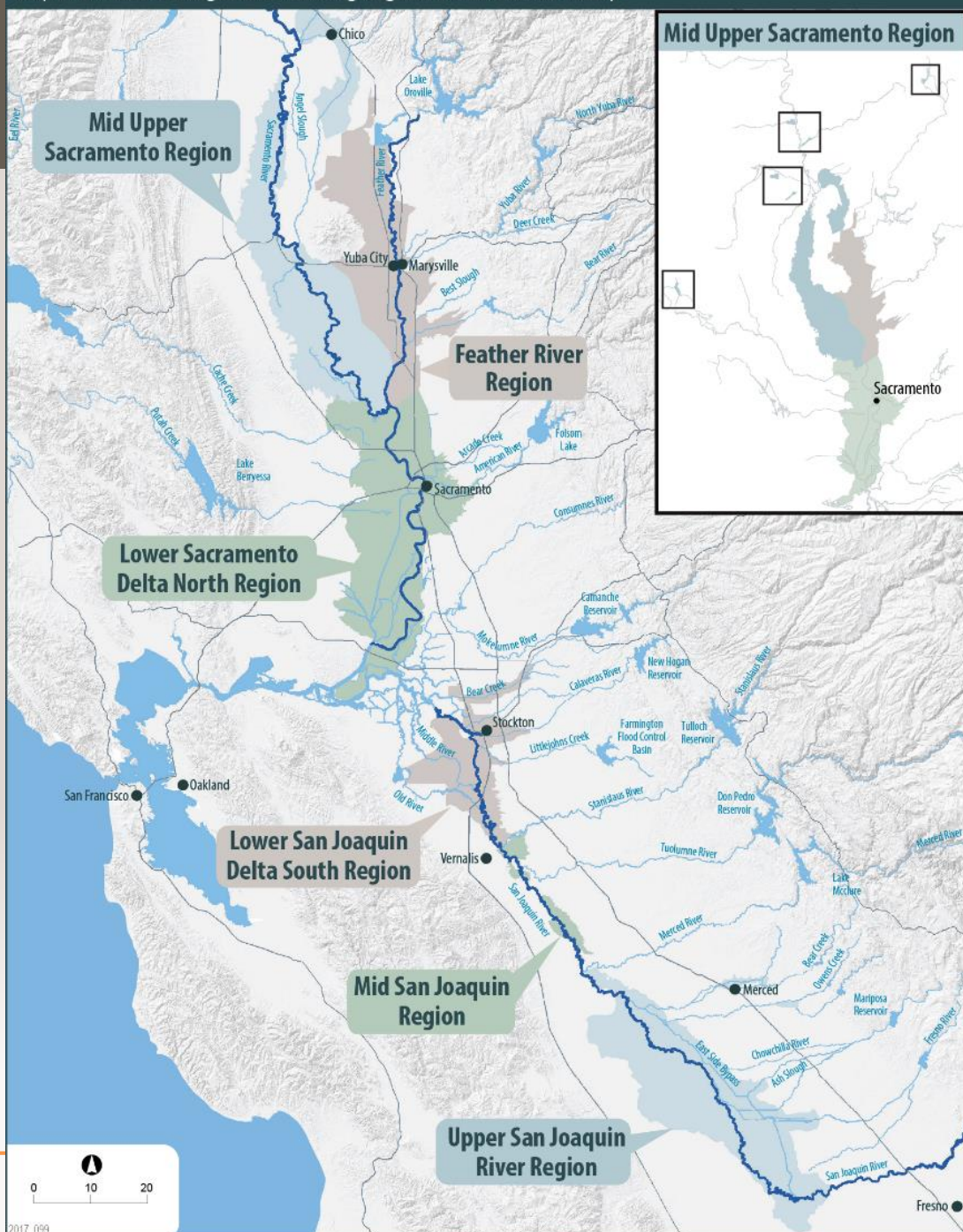
- Planning process overview
- Stakeholder perspectives



# Planning with Regional Partners





- Provided cost estimates, timelines and other details to forecast investment need and articulate priorities in specific geographic areas
- Refined and updated actions of different scales

Map 2-1. Flood Management Planning Regions in the Central Valley





# Outcomes Guide Success and Accountability

Outcome Categories		Example Tracking Metrics
Public Safety Outcomes		
	Measures of overall improved public safety (resulting from combination of flood-specific outcomes)	Number of lives lost or people injured in large flood events (expected annual life loss)
Ecosystem Vitality Outcomes		
	Measures of overall improved ecosystem vitality (resulting from combination of flood-specific outcomes)	Change in the quantity and quality of natural habitats over time
Economic Stability Outcomes		
	Measures of overall improved economic stability (resulting from combination of flood-specific outcomes)	Total value of annual economic floodplain activity less floodplain management costs less expected annual damage
Enriching Experiences Outcomes		
	Measure of overall improved enriching experiences (resulting from combination of flood-specific outcomes)	Percentage of residents who feel they have ample opportunities for recreation, cultural enrichment, and education

Note: More detailed metrics can be found in Table 2-1

# Stakeholder Perspectives on Flood Management Policy Issues

- Stakeholder insights organized around eight flood management policy issues
  - Areas of agreement
  - Areas for continuing conversations

## Perspectives on Operations and Maintenance of the Flood System



**The Issue:** Operations, maintenance, and repair activities are critical for long-term, sustainable flood management. A robust and fully funded O&M program is fundamental to the proper function of the SPFC, ensuring public safety and upholding the State's legal assurances to maintain federal flood project features, and enabling the implementation and maintenance of multi-benefit projects. However, O&M has been impaired by two primary constraints:

- O&M activities have been chronically underfunded
- Declining natural resources have led to a regulatory framework in which flood managers often face conflicting mandates.

### Areas of Agreement

- ✓ Aging infrastructure and decades of deferred maintenance compromise the performance of existing facilities. Further, many facilities predate (and therefore do not meet) modern design standards.
- ✓ Significant additional funding is needed to properly maintain SPFC facilities.
- ✓ An improved approach to permitting flood system maintenance is needed.
- ✓ A prioritized list of maintenance requirements that support habitat stewardship with a funding and regulatory path forward is needed.
- ✓ The flood management system should be managed as a dynamic whole that will evolve over time, and should include considerations for infrastructure and habitat while maintaining access to reliable water supplies and sustainable local economies to support broad public values.

### Areas for Continuing Conversations

- ? Channel capacity may be increased through dredging and vegetation removal, but this does not address systemwide geomorphic and ecosystem health trends.
- ? Incorporating maintenance of habitat improvements into flood maintenance requirements could introduce further financial and regulatory burden on maintaining agencies.
- ? Regional programmatic environmental permitting or multiple-objective O&M approaches could result in improved flood system resiliency as well as ecosystem improvement. Ecosystem uplift could reduce regulatory burden for flood system maintenance over time.

EXAMPLE

# Chapter 3

## Strategies to Improve System Management

- SSIA refinements
- Management actions at systemwide, urban, rural and small community levels
- Policy and financial conditions for effective implementation





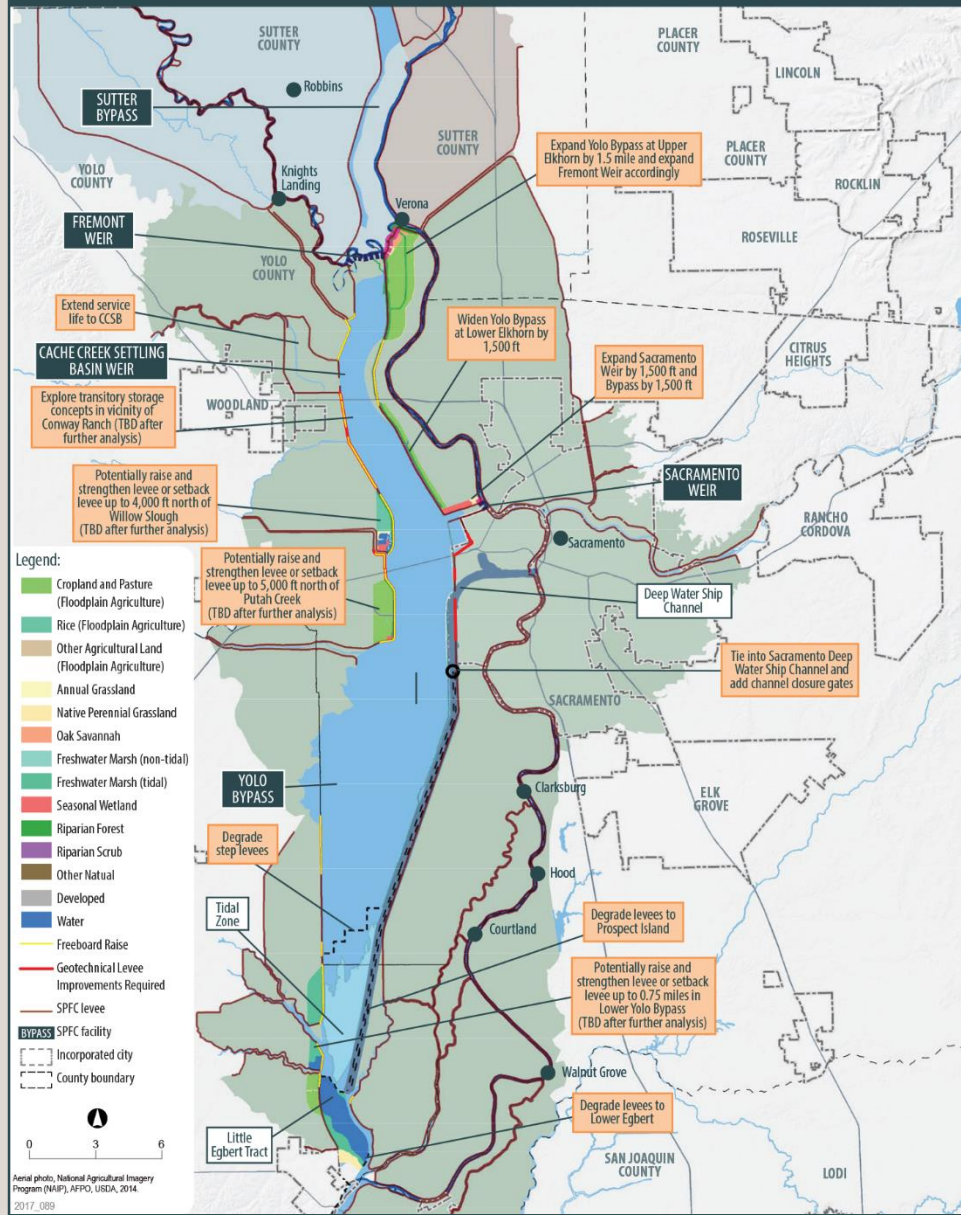
# Investments Across Area of Interest

Capital Investment	Ongoing Investment
<b>Systemwide Actions</b>	
<ul style="list-style-type: none"> <li>■ Yolo Bypass multi-benefit improvements</li> <li>■ Feather River—Sutter Bypass multi-benefit improvements</li> <li>■ Paradise Cut multi-benefit improvements</li> <li>■ Reservoir and floodplain storage</li> </ul>	<ul style="list-style-type: none"> <li>■ State operations, planning, and performance tracking</li> <li>■ Emergency management</li> <li>■ Reservoir operations</li> <li>■ Routine maintenance</li> </ul>
<b>Urban Actions</b>	
<ul style="list-style-type: none"> <li>■ Levee improvements</li> <li>■ Other infrastructure and multi-benefit improvements</li> </ul>	<ul style="list-style-type: none"> <li>■ Risk awareness, floodproofing, and land use planning</li> <li>■ Studies and analysis</li> </ul>
<b>Rural Actions</b>	
<ul style="list-style-type: none"> <li>■ Levee repair and infrastructure improvements</li> <li>■ Small-scale levee setbacks and floodplain storage</li> <li>■ Land acquisitions and easements</li> <li>■ Habitat restoration/reconnection</li> </ul>	<ul style="list-style-type: none"> <li>■ Risk awareness, floodproofing, and land use planning</li> <li>■ Studies and analysis</li> </ul>
<b>Small Communities Actions</b>	
<ul style="list-style-type: none"> <li>■ Levee repair and infrastructure improvements</li> <li>■ Levee setbacks, land acquisitions, and habitat restoration</li> </ul>	<ul style="list-style-type: none"> <li>■ Risk awareness, floodproofing, and land use planning</li> <li>■ Studies and analysis</li> </ul>

# Yolo Bypass Multi-Benefit Improvements

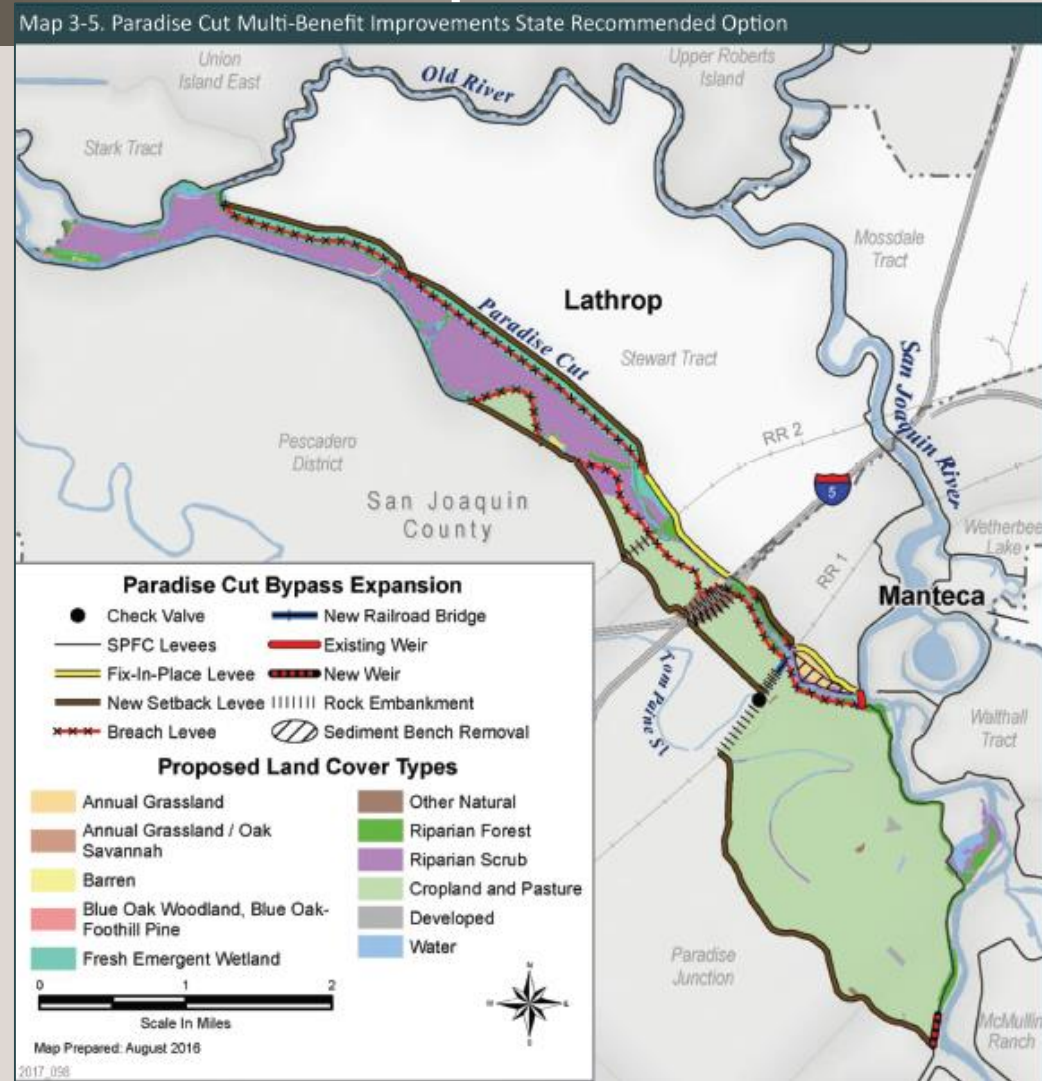
- Freemont Weir expansion
- Levee setbacks in the Elkhorn Basin
- Sacramento Weir expansion
- Measures to extend life of Cache Creek Settling Basin
- Lower Yolo Bypass expansion
- Additional ecosystem and multi-benefit improvements

Map 3-3. Yolo Bypass Multi-Benefit Improvements State Recommended Option



# Paradise Cut Multi-Benefit Improvements

- New weir and levee setback
- Shaded riverine aquatic habitat restoration along decommissioned levee
- Riparian cover for native species
- Revetment to restore geomorphic processes along decommissioned levee
- Restoration of southern portion of current in-channel bar for floodplain rearing habitat



# Chapter 4

## Funding and Implementing the 2017 Refined SSIA Portfolio

- Summarizes refined SSIA costs and timing
- Monitoring and tracking
- Key flood management policy recommendations





# Total Capital and Ongoing Investments

Area of Interest	Sacramento		San Joaquin		Total	
	Low (\$M)	High (\$M)	Low (\$M)	High (\$M)	Low (\$M)	High (\$M)
Systemwide	\$5,920	\$7,240	\$1,910	\$2,340	\$7,830	\$9,580
Urban	\$3,560	\$4,350	\$1,200	\$1,460	\$4,760	\$5,810
Rural	\$1,860	\$2,280	\$1,130	\$1,370	\$2,990	\$3,650
Small Community	\$1,540	\$1,890	\$310	\$370	\$1,850	\$2,260
Grand Total:	\$12,880	\$15,760	\$4,550	\$5,540	\$17,430	\$21,300

Note: Totals reflect annual ongoing investments converted to present value (2016 dollars) and summed with present value capital investment costs.

# Potential State Funding Mechanisms

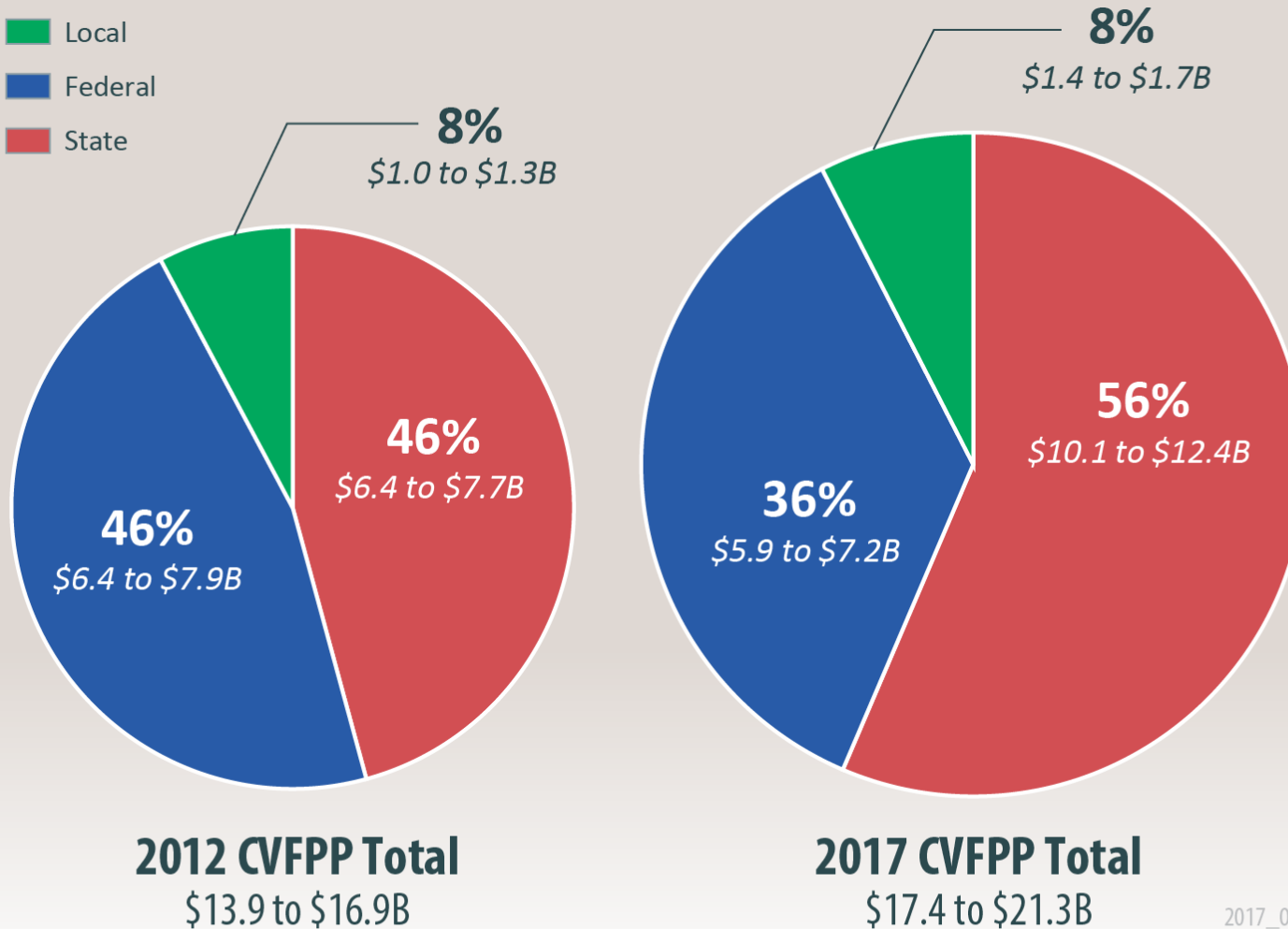
STATE	<b>Additional General Fund</b>	CVFPP funding plan recommends increasing General Fund appropriations.
	<b>SAC/SJ Drainage District</b> <small>New</small>	Reutilize function of the Sacramento and San Joaquin Drainage District.
	<b>River Basin Assessment</b> <small>New</small>	Assessment revenue would be returned to the watershed to be shared across the integrated water management activities.
	<b>State Flood Insurance Program</b> <small>New</small>	Augment/replace the National Flood Insurance Program (NFIP) program with a State-led program.
	<b>General Obligation Bond</b>	Issue new State general obligation bonds.

# Potential Federal and Local Funding Mechanisms

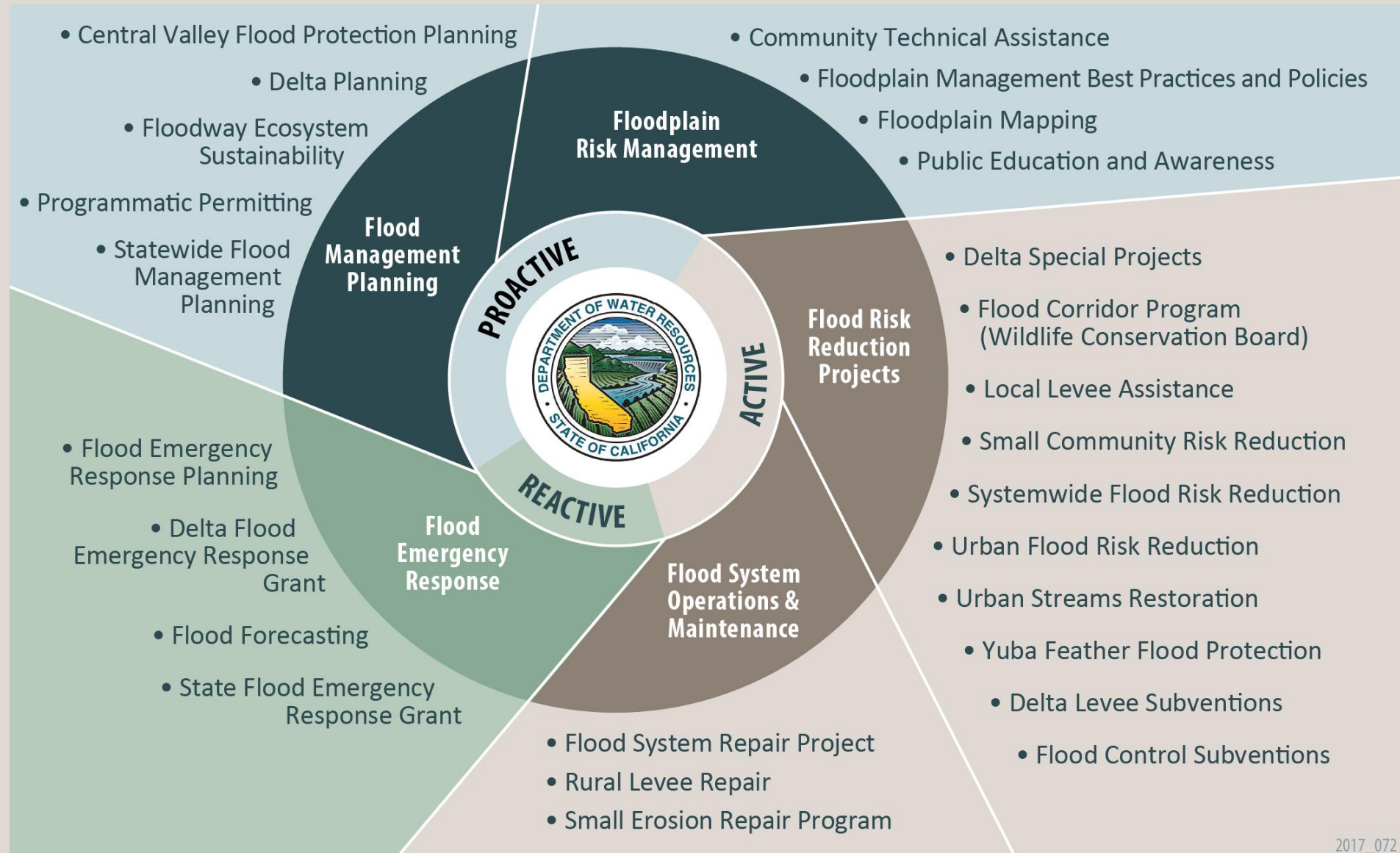
FEDERAL	<b>USACE</b>	Water Resource Development Act (WRDA) authorizes Secretary of the Army to study and/or implement various projects and programs for improvements.
	<b>FEMA</b>	FEMA provides State and local governments with funding for emergency preparedness programs in the form of Non-Disaster Grants.
	<b>Ecosystem Programs</b>	Explore federal programs that provide grants for ecosystem purposes, such as Farm Bill conservation programs offered through Natural Resources Conservation Service (NRCS).
LOCAL	<b>Benefit Assessments and Special Taxes</b>	Increases to benefit assessments and special taxes.



# Sharing Costs Among Partners



# Implementation Through Program Delivery



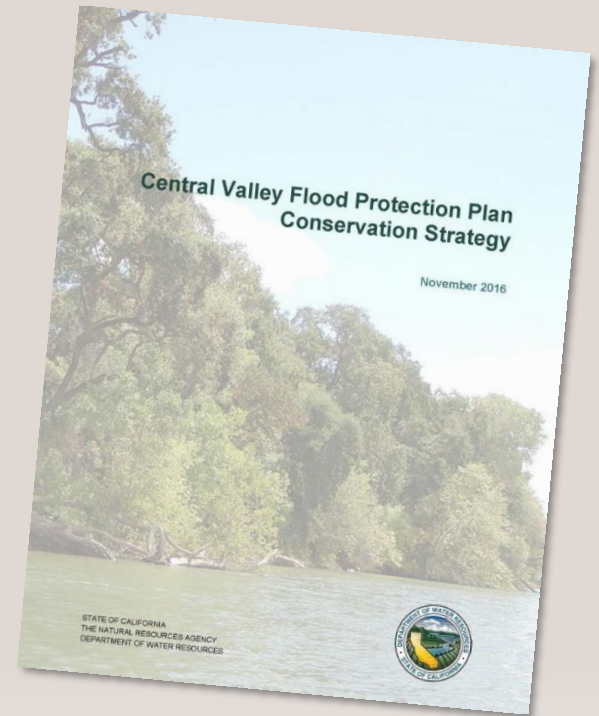
# The Way Forward



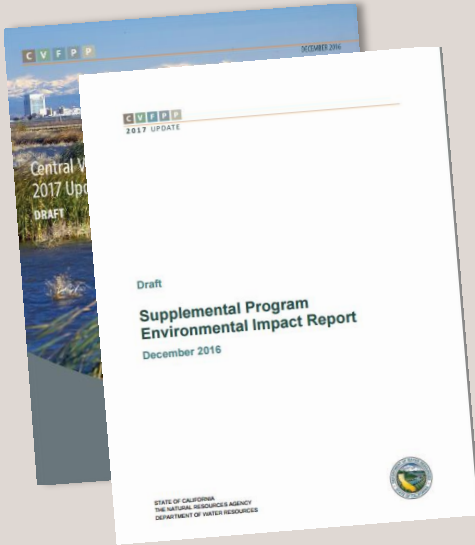
- Recommendations for flood management policy issues; work plans to address issues
- Each policy issue follows this structure:
  - **Flood management policy issue name**
  - **Issue summary:** brief definition statement of what the issue encompasses
  - **Near-term milestone:** brief statement of progress that may be achieved by the 2022 CVFPP Update if sufficient resources are available
  - **Recommended actions:** list of near- and longer-term recommendations with supporting details and recommended participating agencies. Where applicable, participating agencies denoted

# CVFPP Conservation Strategy Advisory Committee

- Convened November 2015 at the request of stakeholders
- Advised the Board on long-term systemwide conservation objectives
- Broad stakeholder representation
- Recommendations presented to the Board on October 28, 2016



# Commenting on the Draft 2017 CVFPP Update / Supplemental PEIR



- Draft 2017 Update to CVFPP released for public review/comment in December 2016
- DWR has also prepared a Draft Supplemental Program Environmental Impact Report (Supplemental PEIR) for the 2017 CVFPP Update
- Electronic versions of both documents are available at [www.cvpfb.ca.gov/cvfpp](http://www.cvpfb.ca.gov/cvfpp)
- Comments should be submitted by March 31, 2017

# CVFPP Public Hearing Schedule

- **Marysville** – February 9, 2017, 6 p.m. – 8 p.m.  
Yuba County Government Center
- **Merced** – February 16, 2017, 6 p.m. – 8 p.m.  
Merced Civic Center
- **Sacramento** – February 24, 2017, 10 a.m. – 12 p.m.  
Sacramento City Hall, 1st Floor Council Chambers/  
webcast
- **Woodland** – March 9, 2017, 6 p.m. – 8 p.m.  
Woodland Community & Senior Center
- **Stockton** – March 17, 2017, 10 a.m. – 12 p.m.  
Robert J. Cabral Agricultural Center